IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application Of	)	
	)	Group A.U.: 3737
Bernard Querleux et al.	)	
	)	Examiner: Jonathan Cwern
Serial No.: 10/759,215	)	
	)	Attorney Docket No.: 006459.00001
Filed: January 20, 2004	)	
	)	Confirmation No. : 6431
For: Skin Analysis Apparatus Including An Ultrasound Probe	)	

APPEAL BRIEF UNDER 37 CFR 41.37

U.S. Patent and Trademark Office
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Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

This is an Appeal Brief in support of Appellant's April 9, 2008, Notice of Appeal. Appeal is taken from the final office action mailed October 9, 2007. Please charge any necessary fees in connection with this Appeal Brief to our Deposit Account No. 19-0733.

REAL PARTY IN INTEREST

37 C.F.R. § 41.37(c)(1)(i)

The owner of this application, and the real party in interest, is L'Oreal.

RELATED APPEALS AND INTERFERENCES

37 C.F.R. § 41.37(c)(1)(ii)

There are no related appeals or interferences.

STATUS OF CLAIMS

37 C.F.R. § 41.37(c)(1)(iii)

Claims 1-34 are pending and rejected. Appellant hereby appeals the rejection of claims 1-34.

STATUS OF AMENDMENTS

37 C.F.R. § 41.37(c)(1)(iv)

All amendments have been entered. Appellant did not submit claim amendments in response to the appealed-from October 9, 2007 final office action.

SUMMARY OF CLAIMED SUBJECT MATTER

37 C.F.R. § 41.37(c)(1)(v)

Throughout this Summary, "page" and "line" refer to Applicant's specification as filed. In making reference herein to various embodiments in the specification text and drawings to explain the claimed invention, Appellant does not intend to limit the claims to those embodiments. All references to the specification and drawings are illustrative unless otherwise explicitly stated.

The invention of claim 1 is directed to an analysis apparatus for analyzing the skin. Page 11, lines 2-4; Fig. 1, reference 1. The apparatus comprises an ultrasound probe arranged to analyze the skin along an axis. Page 11, lines 12-14; Fig. 1, reference 5. The apparatus further comprises a vibrator (page 11, lines 12-14, Fig. 1, reference 4) arranged to emit, from a surface of the apparatus in contact with a region of the skin extending around the axis (page 11, line 32 through page 12, line 5; Fig. 1, surface "S" of tissue "T" and axis "X"), at least one shear wave to the region of the skin (page 12, lines 18-21), wherein the ultrasound probe is arranged to detect a displacement induced in the skin by propagation of the shear wave (page 12, lines 23-25)

Claims 1-24 depend from claim 1. Claims 25-33 are method claims that each recites a step performed with the apparatus of claim 1 and are thus also dependent on claim 1.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

37 C.F.R. § 41.37(c)(1)(vi)

The final office action rejected claim 1 under 35 U.S.C. § 102(b) based on "Quatresooz (Mechanobiology and force transduction in scars developed in darker skin types, Skin research and technology, Volume 12 Issue 4 Page 279-282, November 2006)." Claims 32 and 33 stand rejected under 35. U.S.C. § 103 based "Quatresooz in view of official notice." The final office action did not specifically address claims 2-31.

ARGUMENT

37 C.F.R. § 41.37(c)(1)(vii)

The Quatresooz reference, as cited by the Examiner against claims 1, 32 and 33, is dated November 2006. Although the final office action failed to provide a copy of the cited Quatresooz reference, a copy obtained independently by Applicants' representative also indicates publication in 2006. Because the present application was filed January 20, 2004, Quatresooz is not prior art. Applicants further observe that the present application claims priority to U.S. Provisional Application 60/464,853 (filed April 24, 2003) and French Patent Application 03 00721 (filed January 23, 2003).

CONCLUSION

For all of the foregoing reasons, Appellant respectfully submits that the final rejection of claims 1-34 is improper and should be reversed.

Respectfully submitted,
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Dated: November 10, 2008

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CLAIMS APPENDIX

37 C.F.R. § 41.37(c)(1)(viii)

1. Analysis apparatus for analyzing the skin, the apparatus comprising:

an ultrasound probe arranged to analyze the skin along an axis; and

a vibrator arranged to emit, from a surface of the apparatus in contact with a region of the skin extending around the axis, at least one shear wave to the region of the skin, wherein the ultrasound probe is arranged to detect a displacement induced in the skin by propagation of the shear wave.

2. Apparatus according to claim 1, including a coupling member enabling ultrasound waves to be transmitted between the probe and the skin.

3. Apparatus according to claim 2, wherein a thickness of the coupling member enables the ultrasound waves to be focused in a given region of maximum depth below a surface of the skin.

4. Apparatus according to claim 3, wherein the depth of said region is less than or equal to 4 mm.

5. Apparatus according to claim 1, wherein a focal length of the ultrasound probe lies in the range 10.4 mm to 15.6 mm.

6. Apparatus according to claim 2, wherein a thickness of the coupling member lies in the range 10.6 mm to 14.4 mm.

7. Apparatus according to claim 2, wherein the coupling member is in the form of a disk of viscoelastic material.

8. Apparatus according to claim 7, wherein the coupling member is held against a surface of the skin by a holding ring provided with an inwardly-directed rim against which a face of the coupling member remote from the skin can bear.

9. Apparatus according to claim 8, including a frame to which the vibrator and the probe are secured, wherein the frame enables the apparatus to be positioned so that the axis is substantially perpendicular to a surface of the skin.

10. Apparatus according to claim 1, wherein said vibrator includes an annular piece defining a contact surface through which the shear wave is transmitted, the annular piece presenting a central bore in which the ultrasound probe extends.

11. Apparatus according to claim 10, wherein the contact surface presents symmetry about the axis.

12. Apparatus according to claim 10, wherein the contact surface presents circular symmetry about the axis.

13. Apparatus according to claim 1, wherein the probe is arranged to emit and receive ultrasound waves at a frequency lying in the range of 1 MHz to 300 MHz.

14. Apparatus according to claim 1, wherein the probe is arranged to emit and receive ultrasound waves at a frequency lying in the range of 30 MHz to 70 MHZ.

15. Apparatus according to claim 1, wherein the probe is arranged to emit and receive ultrasound waves at a frequency of 50 MHz.

16. Apparatus according to claim 1, including a generator arranged to deliver a low-frequency signal to the vibrator during the entire analysis period, the signal having a frequency lying in the range of 100 Hz to 500 Hz.

17. Apparatus according to claim 1, including a generator arranged to deliver a low-frequency signal to the vibrator during the entire analysis period, the signal having a frequency of about 300 Hz.

18. Apparatus according to claim 1, including a processor device arranged to deliver at least one piece of information from signals picked up by the ultrasound probe, wherein the information represents a mechanical property and/or a thickness of at least one layer of the skin.

19. Apparatus according to claim 18, wherein the processor device is arranged to deliver information relating to a state of the skin, by comparing a measured value with a reference value.

20. Apparatus according to claim 19, wherein said state of the skin is its degree of aging.

21. Apparatus according to claim 18, wherein the processor device is arranged to store the signals picked up by the ultrasound probe at various successive time points.

22. Apparatus according to claim 18, wherein the processor device is arranged to store the signals picked up by the ultrasound probe all n time intervals dt, n lying in the range of 50 to 500.

23. Apparatus according to claim 22, wherein dt lies in the range of 2.2 ms to 0.8 ms.

24. Apparatus according to claim 1, wherein the probe and the vibrator are arranged so that the displacement of the vibrator for generating the shear wave is not transmitted to the probe.

25. A skin analysis method, comprising analyzing skin by means of the apparatus according to claim 1.

26. A method according to claim 25, further comprising the step of processing signals coming from the ultrasound probe so as to determine at least one value relating to a mechanical property of the skin.

27. A method according to claim 26, wherein said mechanical property is selected from the group consisting of its Young's modulus, its shear modulus, and the propagation speed of the shear wave.

28. A method according to claim 26, wherein the phase lag of the shear wave is calculated as a function of the depth.

29. A method according to claim 26, wherein a state of the skin is determined by comparing a value for Young's modulus resulting from analyzing the skin with reference values.

30. A method according to claim 29, wherein said state of the skin is a degree of aging of the skin.

31. A method of evaluating a mechanical property of a region of the skin, the method comprising:

analyzing said region with the apparatus according to claim 1; and

delivering, from the results of the analysis, information relating to said mechanical property.

32. A method of determining the effectiveness of treatment that has action on a mechanical property of skin, the method comprising:

performing a first evaluation of said mechanical property;

performing the treatment on the skin; and

after the treatment, performing a second evaluation of said mechanical property, at least one of the first and second evaluations including the steps of

analyzing the skin by means of the apparatus according to claim 1, and

processing signals coming from the ultrasound probe so as to determine at least one value relating to the mechanical property of the skin.

33. A method of treating a region of a human body, the method comprising:

analyzing skin by means of the apparatus according to claim 1;

processing signals coming from the ultrasound probe so as to determine at least one value relating to a mechanical property of the skin; and

performing treatment that has action on said property based on an evaluation of the at least one value.

34. The method of claim 32, further including demonstrating activity or effectiveness of a product as revealed by the second evaluation.

EVIDENCE APPENDIX

37 C.F.R. § 41.37(c)(1)(ix)

NONE

RELATED PROCEEDINGS APPENDIX

37 C.F.R. § 41.37(c)(1)(x)

NONE